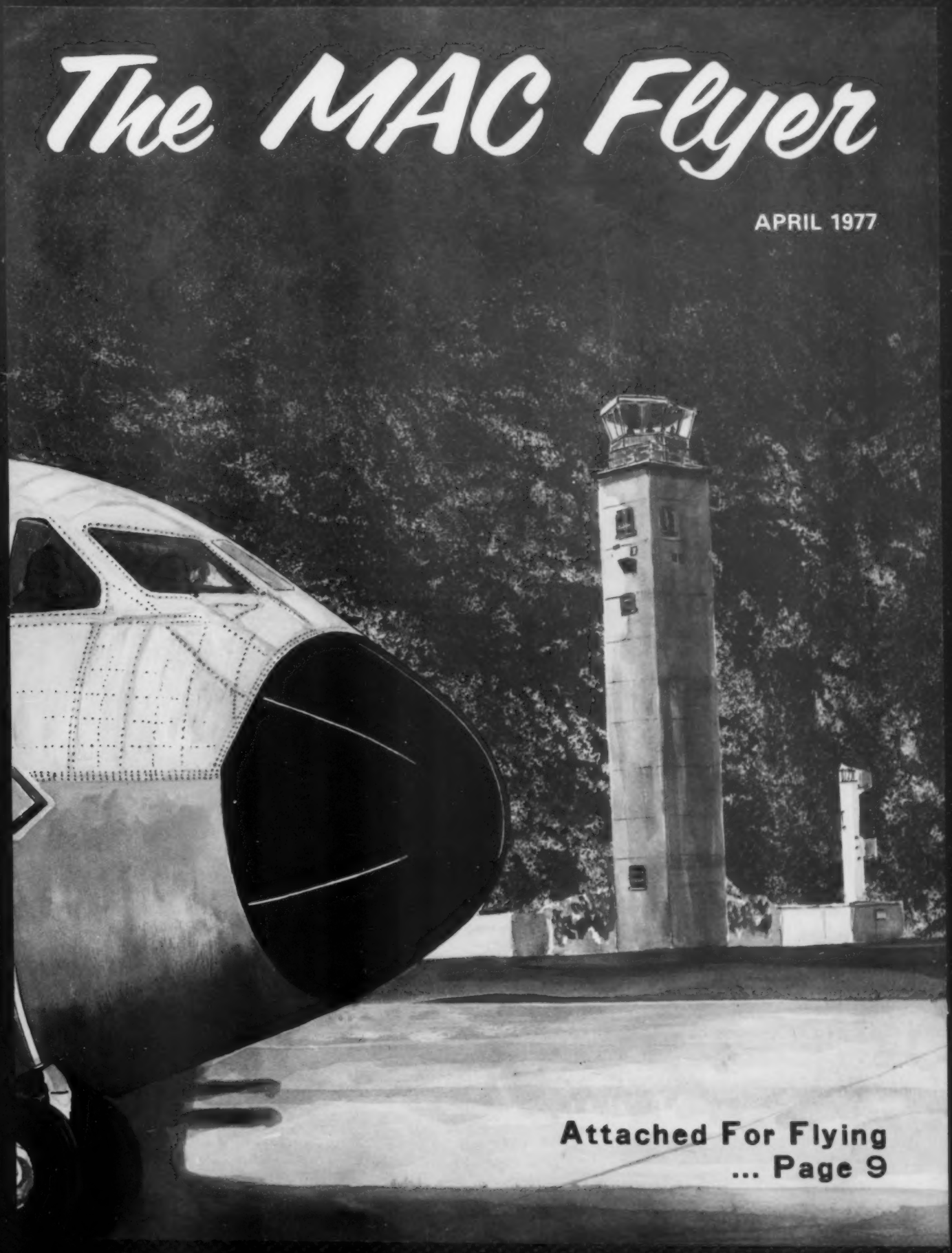
The MAC Flyer

APRIL 1977



Attached For Flying
... Page 9

The MAC Flyer

MILITARY AIRLIFT COMMAND

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For Greater Efficiency
in MAC Air Operations

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Flyer Call

THE MAC FLYER staff has some good news and some bad news. The good news is that our supervising editor is going to Air War College. But after we polished off the second bottle of champagne, our old buddy, C.R. Terror, hintingly asked who we had in mind for the prestigious position of Associate Editor. As gently as we could, we turned the Prolific Pilot down. (He has more time in the service than the Inspector General and is already a major.) But that brings up the bad news.

We need applicants for the position of Associate Editor or we're in trouble. Judging from the prose that appears in TMF, you might be under the impression that the editors are professional writers on furlough from PLAYBOY. Not so! We're just MAC aircrewmembers who enjoy working hard writing about flying safety and airplanes. If you'd like to do likewise, perhaps you, too, can become a TMF editor.

Prerequisites for the job are not overwhelming. Generally speaking we're looking for a pilot (captain or major). It would be nice if the new editor had experience in C-5's, helicopters, or tactical airlift. It would also be nice if our new editor had a background in journalism. But whether or not you fit all of the above, if you have reasonable writing ability and the desire to work for one of the world's finest fly-safe journals, you could be the one we're looking for.

There's not much time. You'll be filling a position that comes open in June or July. This summer! So hurry! Contact: THE MAC FLYER, MAC/IGFE, Scott AFB, IL 62225 — or call, Autovon 638-3534 or 5542.

A Commander's Farewell

When I first pinned on my wings there were few, if any, who could have envisioned the need for an airlift capability such as we possess today. Many of the events which blueprinted the flow of history gave birth to this force and will continue to influence our requirements for years to come.

I am proud to have been the commander of this great force—the Military Airlift Command—just as I was proud of those gold second lieutenant bars 35 years ago. I feel honored to have been given the opportunity to serve this country at whatever rank, assignment, or geographical location. I am equally proud to have served with you outstanding men and women who fly in, or support, our airlift, rescue, weather and audio-visual operations around the globe.

Now, I say farewell to the Air Force and, to use an old term, my comrades-in-arms. I shall not forget you, and will remain acutely aware of your presence and the part you play in the future of our great country.

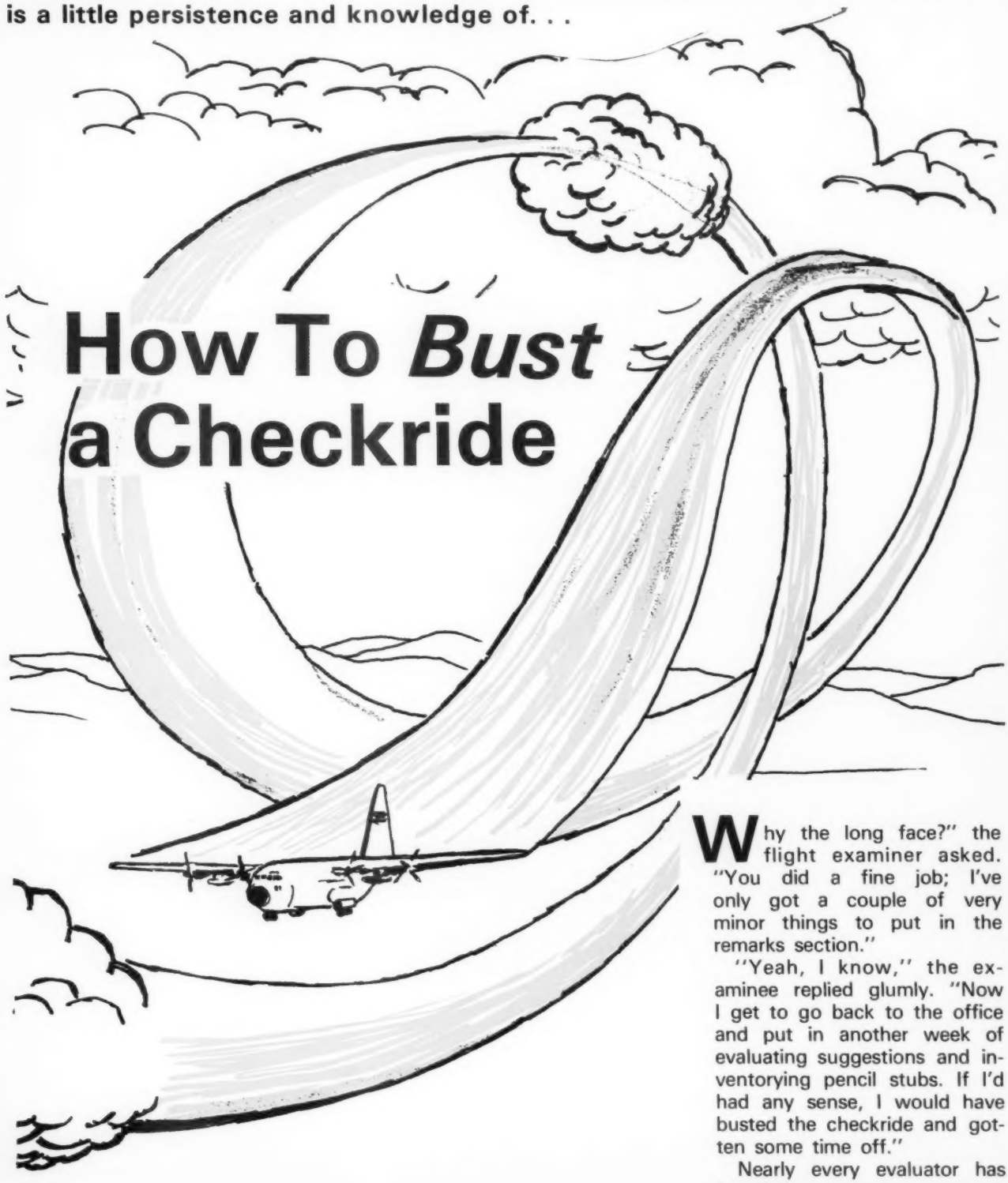
I am confident that you will maintain and improve upon the readiness that is essential to safeguarding this country as a democracy; I am confident that your total dedication and selflessness will overcome the obstacles with which you are, and shall be, faced; I am confident that your patriotism and professionalism will prove a source of strength to overcome those barriers that lie along our nation's charted course.

You are all warriors—whether you fly an aircraft, turn a wrench, or type a report—and that you should never forget. You possess a collective expertise that has never been surpassed in any military organization. Strive for perfection—now. Do your best to prepare for the future—now; for your next great challenge may leave no time for preparation. Your task is not, nor shall it ever be, easy. An airman's task seldom is.

I say goodbye with a sincere appreciation for what you have achieved in the past and for what you shall accomplish in the future. Serve well. Your country needs you.

Paul K Carlton

Want some time off from those bothersome additional duties? All it takes is a little persistence and knowledge of. . .



How To *Bust* a Checkride

"Why the long face?" the flight examiner asked. "You did a fine job; I've only got a couple of very minor things to put in the remarks section."

"Yeah, I know," the examinee replied glumly. "Now I get to go back to the office and put in another week of evaluating suggestions and inventorying pencil stubs. If I'd had any sense, I would have busted the checkride and gotten some time off."

Nearly every evaluator has heard that comment or some-

thing like it at one time or another—and sometimes it's hard to believe the guy is kidding. After all, a failed evaluation isn't any worse than a bad cold. It makes you feel uncomfortable for a while, but it won't necessarily get you a bad performance report or an assignment to Thule. It *will* get you some time off from nonflying duties and some pretty valuable training. So why didn't our fictional examinee actually go along with his impulse and fail the checkride?

Well, integrity, professionalism, and pride most likely kept him on the straight and narrow, as they do most of us. But, on the other hand, maybe he simply didn't know how to bust a checkride. After all, thousands of hard-working instructors teach their students how to *pass* checkrides—but has anybody ever taught you how to *fail* one?

In order to correct this oversight in the MAC training program, an assortment of old-head flight examiners from all crew positions were asked to contribute some suggestions. The following list is the result; it describes the most popular and effective checkride-busting techniques used by crewmen over the years. These techniques may be used singly or in combination, and are equally effective on any type of evaluation. They are well worth keeping in mind if you're planning to bust that next checkride—and even more so if you're not.

1. Don't prepare.

This is a very popular method, but takes some planning and lead time. The best time to start is immediately after your last successful checkride. Put the books away and don't get them back out until the day before the next check. Read *Hustler* on those long overwater legs. Never update your publications; if you hear a rumor about a publication change, be sure to get it fourth or fifth-hand.

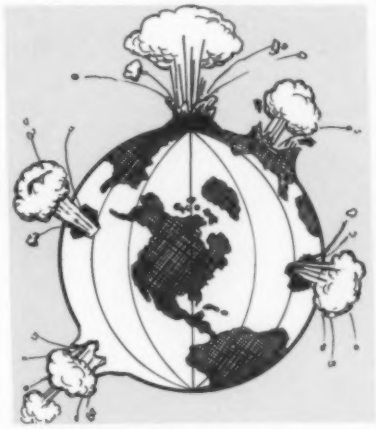
If offered a training ride shortly before the evaluation, refuse.

2. Pretend it's a game.

Highly experienced crewmembers are fond of this one. For example, one can maintain the attitude, "He can't bust me; I'm an instructor (or command pilot, or lieutenant colonel, or ops officer, etc.)." However, the younger troops can also use the method to good advantage. Try memorizing some so-called flight examiner questions, such as the number of notches in the armrest or which parts of the aircraft are edible; this is sure to have the desired effect on the evaluator. Always keep in mind that if you don't know it, it can't be very important. Remember that your opinion is just as good as the evaluator's—and be sure to tell him so.

3. Pretend it's the end of the world.

This one works especially well for the younger guys. Convince yourself that it's just like pilot training and you're playing "you-bet-your-wings." Collect some horror stories about hard-nosed flight examiners and worry about them at length. Let visions of FEB's dance through your head. On the day of the checkride, make yourself believe that a normal, well-conducted, safe, and professional flight isn't enough, and that even Superman couldn't get past *this* evaluator. Make a minor mistake early in the flight and worry about it until it seems like a court-martial offense.



4. Have some alibis ready.

These may be used either before, during, or after the flight. Some popular ones are:

"They must not have put that change in my V-file."

"I'm just saving all the supplements until they change

the whole Dash One."

"But we always did it that way in Southeast Asia."

"Oh, no, Sir, that DF steer was just for practice."

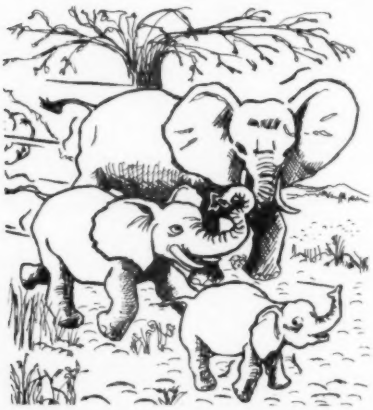
"I guess the flaps just came up all by themselves."

"Weren't *you* supposed to identify that VOR?"

5. Let the elephants get away.

This is probably the most effective single method for checkride busting and can be applied throughout the flight. For example, read off the height (both MSL and AGL) of every obstruction depicted on the approach plate during your briefing, making sure to ignore the aircraft's present position and altitude while you do so. If you're flying IFR in VFR conditions, keep your eyes glued to the gauges; one peek may be worth a thousand crosschecks, but for really busting a checkride a near-midair is hard to beat.

The approach phase provides many opportunities to stomp ants while the elephants escape. On a PAR, try asking for a wind check every 15 seconds; this works particularly well with calm winds. In the case of a CAT II ILS, forget about maintaining glide slope and localizer and hold an extended discussion about the merits of VOR versus tacan as a backup approach.



A simulated emergency provides a perfect opportunity to use this technique. Let's say you're on short final with the field in sight and are cleared to land when you're faced with a simulated uncontrollable engine fire. Immediately start a go-around to give yourself time to brief the copilot to center the rudder trim and get a backup frequency from approach control.

The essence of this technique is simplicity itself. Just remember that any detail, however insignificant, takes priority over flying the airplane. Even the most tender-hearted flight examiner will find it impossible to resist this approach.

6. Make it as tough as you can.

The great majority of successful checkride-busters use this technique. Basically, it involves multiplying the difficulty factor by trying to do everything yourself. Never ask for the help that you would normally get from the rest of the crew. If you have an autopilot, pretend it's broken; hand-fly the airplane while briefing, running checklists, and changing approach plates. If the flight examiner offers to fly the airplane while you catch your breath, tell him you need the practice more than he does. If he asks a question about an aircraft system, don't just answer the question; try to explain the entire system while simultaneously running the before-landing checklist or figuring out how to enter holding. Start every approach when cleared, ready or not, and try to figure out what you're going to do on the way down.

7. Never trust your own judgment.

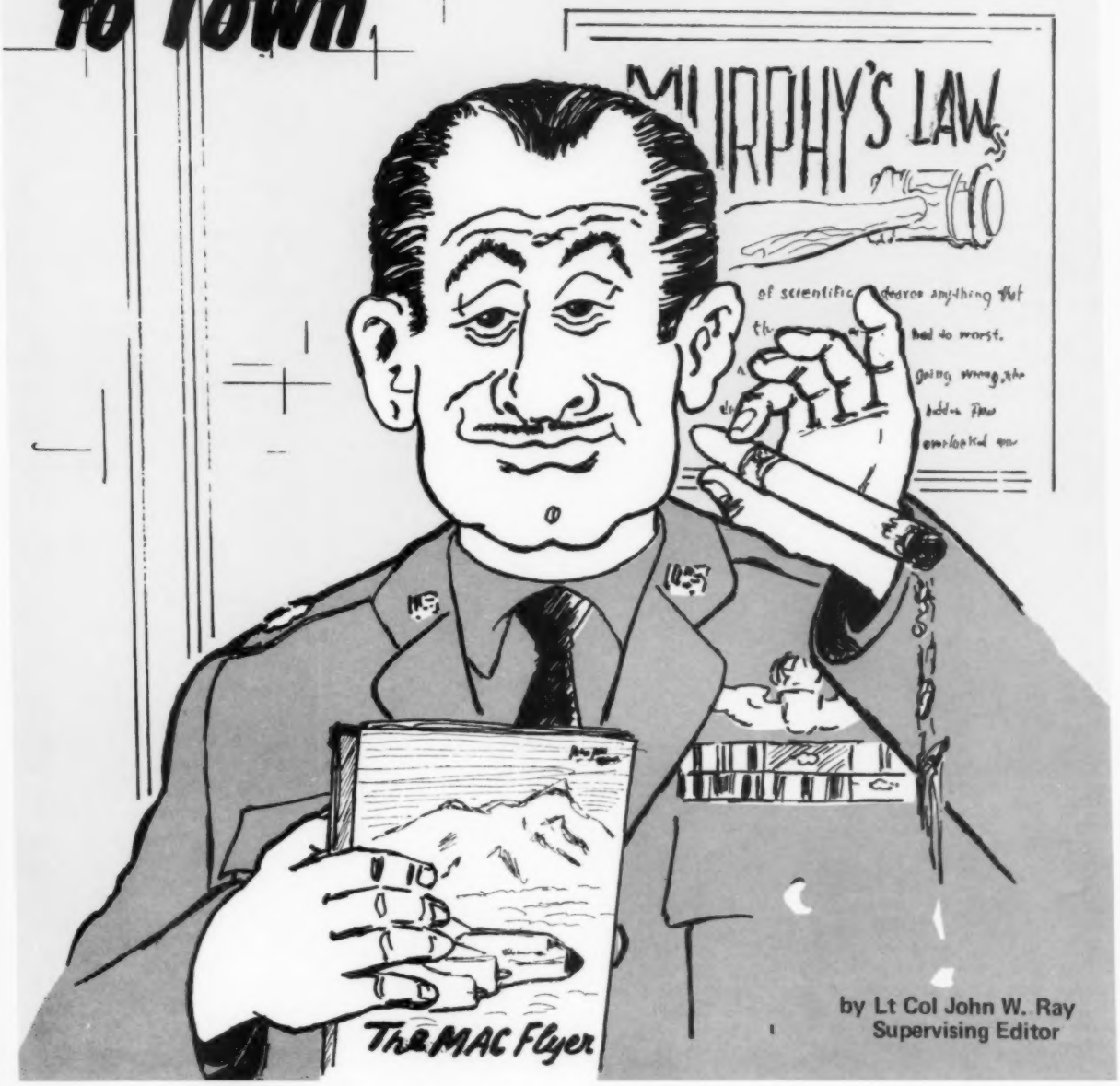
Even a low-time crewmember has learned some things about flying through experience; if you're an old head, you've probably learned a lot. This sort of knowledge is highly detrimental to the aspiring flunkee, and must not be used during the checkride. Instead, try to read the examiner's mind. Forget about common sense; just figure out how he probably expects you to do something, and then do it that way. Avoid simplicity; if a procedure seems uncomplicated, effective, and safe, it's probably prohibited by a footnote to sub-sub-paragraph 14-17b (8) (j)9. Find a harder way.

Use secondhand ideas whenever possible. If Colonel Schmedlap once told you that "we always did it that way in The Big War," do it that way—even if it seems like sheer insanity and a good way to get killed.

Convince yourself that anything you're told by someone else is true. If an altitude clearance sounds strange, accept it anyway; the guy on the ground probably knows something you don't.

NOTE: The above techniques, conscientiously applied, will guarantee several X's in the right-hand column of the Form 4 and some highly valuable extra training. Used during an ordinary line mission, these techniques can also provide permanent relief from all duties and a nice insurance bonus for your survivors. After all, safety is what that checkride is all about—remember?

Mack C. Dent Comes to Town



by Lt Col John W. Ray
Supervising Editor

Not long ago an old friend—he reverted to the status of old acquaintance following the visit—dropped by THE MAC FLYER office for a "brief chat." In any event, that's what he said after shaking hands and creating IFR conditions with two lungsful of cigar smoke.

Mac C. Dent is an old time C-119, C-124, and helicopter "conversion" type who has also logged considerable time in the C-141, T-39, and several other planes. He has held a multitude of jobs and the fact that he was quietly moved out of most has neither prompted him to reevaluate himself nor lowered his self-confidence.

Mack eased into the real reason for his visit by reminiscing on the old days at Hickam, his close shaves in the air and his prowess as a womanizer, aviator, and man-about-the-world.

"But that's not what really brings me here,"

he finally admitted.

Then what was his real motive for cluttering up the office floor with cigar ashes?

"Your magazine." He was finally ready to get it off his chest.

"And what about 'our magazine'?"

"Well, I've been reading THE MAC FLYER for a good many years," he reminded us, "and I think it's great. No doubt about it. Always has been and always will be . . ."

We didn't think he had come all the way to Scott just to say a few kind words.

". . . but I have one complaint. You're blaming the wrong people for accidents. Yes, sir. Seen it happen many times. Don't mean to seem critical, but . . ."

We could hardly wait for his punch line, and old Mack is not one to disappoint when it comes to punching out lines.

". . . in an issue last year I recognized a story that was about a C-141 incident I had." Flipping open his briefcase and brandishing a blue-covered magazine, he continued, "but it wasn't my fault, and this article says it was."

He pointed to the article and we read it.

"What do you think of that?" he trumpeted. "Do you admit that you're wrong? That incident happened in Southeast Asia in October 1973. My crewmembers were—"

We interrupted him to say that the story was not about his mishap, but that of a commercial airliner crash in New York.

"Are you certain?" he complained. "Sure sounds a lot like mine. Never mind, then. But I've got another instance. Here's a story about an accident in which a friend of mine was involved." He whipped out another issue; this one just over a year old. "And this isn't the way it happened at all."

We read the story and retrieved from our files the backup material on which the story was based.

"Now don't tell me," old Mack persisted, "because I know that the twin-engine jet in the story was a T-39 and the whole thing took place sometime in December 1975."

"Actually—" we started to say.

"It's okay. Don't apologize. Everybody makes errors. Particularly you guys in the safety and writing business," he giggled.

"What I was about to say," we continued, "is that the author of that story is one of our editors. He wrote it about an incident in which he was involved some years ago—in a T-38."

But Mack is not the kind of person who gives up easily, as any flight nurse who has ever ventured into the Hickam Officers Club can confirm, and he was ready with another salvo.

"Well, you'll have to admit that you sometimes blame people in maintenance for incidents that aren't really their fault—and sometimes you even get onto the case of ops and weather types," he stammered. "I know that for a fact."

We allowed as how it was not THE MAC FLYER's responsibility to blame anyone, only to publicize causes of incidents—or accidents—to help others avoid the same pitfalls.

Mack would have no part of that.

"Just admit," he bantered, "that sometimes you really pick on people. Like for awhile you put it to the crews, then you switch to other people, like maintenance, operations, weather—even commanders. How do you choose who you're going to zero in on?"

"You really want to know?" we answered, egging him on a bit. "In fact we have a dart board with an organizational structure circled in and we just—"

"Now you're getting silly," Mack retorted, his patience wearing thin.

"You're right," we admitted, "but I doubt that we could convince you that we don't pick on people anyway."

We knew that, at one time or other, Mack had worked in maintenance, weather, operations, and even administration. We asked him what kind of job he had now.

For one of the few times in his life, Mack C. Dent seemed startled. But not for long.

"Are you kidding?" he gasped, quickly donning his blouse and snuffing out the cigar with the heel of his shoe. "Let's just say I'm between jobs right now. And even if I weren't, I wouldn't tell you. I'm not about to let you guys blame me for something that isn't my fault."

Honorable Mention, 1976 MAC Flying Safety Writing Contest

Faced with bad weather, multiple emergencies, and a diversion to a strange field, a "part-time" pilot discovers the difference between currency and proficiency.

Attached for Flying

by Capt Lewis F. Hofmann
438 MAW/SEF
McGuire AFB, New Jersey

The scalding liquid in the coffee cup sprayed over my legs like hot rain and a burning pain shot through my left thigh as I grabbed for the yoke. But in spite of my frantic effort to steady the aircraft, it still thrashed around like a beached fish. The unexpected turbulence which had wracked the aircraft now caused G forces that pinned me to my seat for what seemed like an eternity. The turbulence battered the aircraft mercilessly.

In the cabin were 30 passengers and one litter patient who probably were not even strapped in, and we were at least three hours from civilization. Possible courses of action flashed through my mind. Obviously, I must either climb or descend until we were out of the turbulence, but circumstances rendered those choices less simple than they seemed.

The flight had been planned for 35,000 feet and the aircraft fueled accordingly, but due to a last-minute decision by the flight surgeon we were restricted to a cabin altitude

of 5,000 feet because our patient had a serious blood clot of the leg. The flight had thus begun at FL 310. Although we later climbed to FL 330, the winds were not as forecast. We were now running short on fuel.

Climbing was out of the question because of the patient's condition. That meant we must descend if we hoped to reach smoother air. But, if we had to go as low as FL 200, we would face an acute fuel problem.

By this time the aircraft seemed oblivious to control inputs or throttle adjustments, and I couldn't remember the airspeed for severe turbulence. For that matter I couldn't remember a lot of other procedures. There were facts in the back of my mind that I couldn't seem to bring out for use. It suddenly occurred to me that I shouldn't have been out there flying in a situation like this. I was only *attached* to the squadron for flying.

Hindsight always makes problem-solving seem easier than it is, but at the time I felt extremely short on foresight. In a crisis situation, decisions must be made quickly. One doesn't always have the time to ponder his wisdom. I decided to descend. It was the proper thing to do; not through any wisdom of mine, but by default. What else could I do?

We were descending through FL 280 and still being battered around when the engineer reported that number three engine had flamed out. The continuous ignition switch was on but there was no way of knowing whether or not it was functioning properly. Since running an air start checklist is nearly impossible in severe turbulence, we decided to wait until reaching smoother air to try it.

At about FL 240 the turbulence ceased and order started to return to MAC 44639. I instructed the copilot to let someone know that we had descended and to get a new clearance. The scanner reported that several passengers and a medical technician had been injured slightly; the litter patient was okay. I wondered briefly about all the paperwork and explanations that would be required because of the passengers' injuries.

I called for the air start checklist and everything worked just as it does in the simulator; the engine wouldn't start! Several more attempts were made but all indicators hung right where they were. It didn't make any sense, but we finally resigned ourselves to a three-engine flight.

Now we began to think about landing—anywhere—since we were operating not only with limited fuel, but on three engines. Of the three choices the navigator gave me, one of them was out because of high winds and the other was out due to low visibility caused by the ice fog. It looked as if we were going to Gander. I always knew Gander was up there somewhere, but darned if I knew anything about it. I didn't even know whether it was military or not. After a long chat with the 21st Command Post, we all settled back, content that we had a definite plan of action and that everything would be all right.

Everything was all right . . . until we began the approach to Gander. The winds were favoring runway 32 and we were receiving vectors for a PAR. I called for flaps, but as they started down, the aircraft rolled abruptly to the right and the flap assymetry lights illuminated. The scanner reported the left flap at about 10 degrees and the right one at three to five degrees—and apparently jammed. The right inboard flap panel had come off the tracks. We requested holding.

There was a lot of discussion in the cockpit concerning the what, why, and wherefore of our situation. We figured that the turbulence had caused our flap problem and that we should perform a landing controllability check. We did, and except for its tendency to make right turns and fly fast, the aircraft seemed controllable. However, with an RCR of 12 and a ten-knot crosswind component, the 8,900-foot runway began to look a lot shorter.

A Conference Skyhook was initiated with the Command Post after we had our facts straight. No one seemed happy with our taking a

broken airplane into Gander, especially with our patient and a number of passengers for which accommodations weren't readily available. We convinced them that fuel and weather conditions narrowed the choice to Gander.

Fortunately, there was time to plan ahead for this emergency and, by the time we started the actual approach, I had reviewed a good many directives and was prepared. But you can't learn to fly a three-engine split flap approach by reading. The right yaw tendency, caused by the engine-out, was compounded by the split flap condition. Not only that, we would land with a left crosswind. A missed approach would really be a test of my capabilities. No doubt about it—we had problems.

I flew the approach poorly all the way down to decision height. PAR's have never been my best approach and the turbulence on final had added to my control problems. During the flare I had in full left rudder and full left rudder trim. The trim had been left in because I forgot to call for the copilot to center it.

The plane was still cocked to the right when we touched down, but it didn't cause a jolt, probably due to the low RCR. Almost immediately we began sliding toward the right side of the runway. Nosewheel steering had no effect. Max reverse thrust on number one engine and idle reverse on number four pointed the nose in the proper direction, but the slide continued. I'm still not sure what kept us on the runway. It was either the snowbank along the right side of the runway or a dry patch that abruptly halted our skid.

No one, except for our crew and perhaps tower personnel and the crash truck crew, had been aware of our landing problems. After we shut down and deplaned, the doctor came over and congratulated me on the good landing and thanked me for getting out of the turbulence as quickly as we did.

"Thanks," I replied. "It was the least I could do." It was also the most I could do.

•

Since that incident, I have reflected on why I felt so incompetent when my problems began to mount and options seemed so limited. Now, I believe I have found the answer.

It had all started more than a year before when the squadron I am attached to for flying stopped scheduling me on trips as aircraft commander. Attached pilots are not on firm crews and to schedule me on trips as an aircraft commander would have meant a scheduling deviation. Not being firm scheduled each month, I was left to take my chances as an extra copilot for add-on missions during my one week of flying each month. These trips never seemed to materialize when I was available, so I usually just jumped on a local training flight once a month for an hour to get my two approaches and landings. The end of the quarter usually found me on an out-and-back as a third pilot to get my required two overseas legs—and in the simulator during a free period to fill in on the remaining approaches I needed. My line check eight months prior had consisted of two legs on a stateside mission. All this had taken away my enthusiasm for flying, my proficiency level, and my incentive for keeping in the books.

Why I was out there in command on this mission involved a rather ludicrous turn of events. My squadron's scheduling reliability was outstanding, so the word came down that we could afford some deviations in our scheduling. I was a scheduling deviation.

Who was I to say, "No, not me. I'm not proficient enough to fly in command." Who among you could have stood up and done so? After all, I was current and had met all of the measures of proficiency that any other aircraft commander must meet. To admit that I wasn't capable would reflect only on me. And few crewmen will voluntarily place themselves in an unfavorable light. Not even me—then.

MAC's workhorse gets a new look with the advent of the YC-141B.

The Stretched Starlifter Rolls Out

In December 1975, a C-141 from the 437th MAW arrived at the Lockheed-Georgia Company's Marietta facility. For seven months it underwent exhaustive flight testing, then disappeared into the cocoon of the company's main manufacturing building.

On 8 January 1977 it emerged again as the YC-141B, an aircraft with a new look and some interesting new capabilities.

The increased length catches the eye first. The prototype is 23 feet, four inches longer than the C-141A, with the majority of the added length (13 feet, four inches) ahead of the wing. An additional ten feet was added just aft of the wing's trailing edge to increase the prototype's total cargo capacity to 13 pallets, as compared to 10 for the C-141A.

Longer—And Cleaner

Less apparent than the increased length, but just as important to the YC-141B's capabilities, are the modifications made to improve the aerodynamic characteristics of the aircraft. The removal of wing vortex generators and installation of redesigned wing fillet fairings will reduce drag and improve wing lift distribution. Because of these modifications, the prototype can operate at increased gross weights with no adverse effect on wing fatigue life.

Longer Legs

Atop the YC-141B's fuselage, just aft of the crew station area, is another

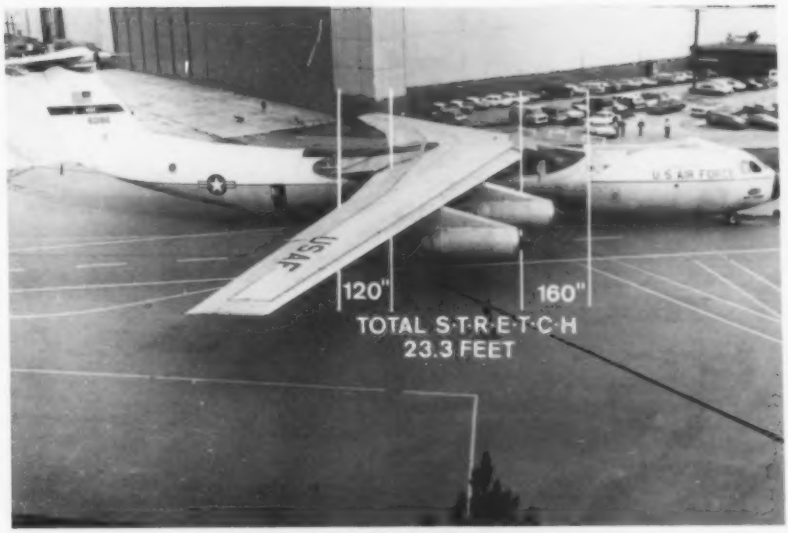
striking new feature: an external fairing which houses plumbing for in-flight refueling. Designed for the Universal Aerial Refueling Receptacle/Slipway Installation which is compatible with USAF's KC-135 tankers, the refueling system is capable of taking on approximately 5,800 pounds of JP-4 per minute.

Aerial refueling operations should pose no particular problems for the YC-141B. During the baseline testing of the aircraft prior to modification, it was flown in the refueling position behind a KC-135. These tests, the majority of which were conducted at FL 250 and at a speed of 270 knots, revealed no handling difficulties with either aircraft.

Heavier and Faster

Although the empty weight of the YC-141B is approximately 10,000 pounds greater than that of its predecessor, the aircraft *may* be capable of carrying greater cargo weights. Flight tests of the unmodified aircraft demonstrated that a *war emergency* takeoff weight of 344,900 pounds and a landing weight of 337,800 pounds is feasible. Although Lockheed plans to certify the prototype at the higher demonstrated weights, MAC intends to retain the current maximums of 325,000 pounds for takeoff and 323,100 pounds for landing.

But the fact that the YC-141B is heavier doesn't mean that it will be slower. To the contrary. Wind tunnel tests indicate that the best long-range cruise speed for the prototype will be 0.775 Mach—compared with the 0.74 Mach normally flown in the C-141A. This increase in cruising speed is a result of a reduction in drag made possible by new wing fillet fairings. The fairings also provide a second bonus: better fuel mileage. Wind tunnel tests predict that the YC-141B will achieve slightly better specific range (nautical miles per pound of fuel) than the A model at the same gross weight.



A longer and leaner 60186 on rollout.

First Flight

By the time you read this, the YC-141B may have already taken to the air for the first time. Beginning this spring, it will make 23 flights over a nine-week period for performance evaluation. Company officials expect flight tests to confirm the predictions of wind tunnel testing. In addition to new cruise speed and fuel consumption figures, engineers anticipate no significant difference in stall speeds or takeoff and landing characteristics between the prototype and the A model. Lockheed also says that the longer fuselage should not impose any pitch attitude restrictions during rotation or flare.

Stretch 'em All?

When the flight test results are in, USAF will make the decision on whether or not to request funds to modify the rest of the Starlifter fleet. Planners feel that the increased capacity of a fleet of C-141B's could make a critical difference in MAC's ability to provide short-notice strategic mobility for U.S. forces; they also maintain that the 1973 Israeli airlift pointed out a need for aerial refueling capability in situations when MAC aircraft are restricted to the use of only a few bases.

So take a long look at the nearest C-141A. It's possible that someday you'll try to recall how it once looked.

When it comes to altimeter settings, safety can be a matter of inches.

A Thousand to One

Most flying accidents are preceded by a sequence of events or a combination of circumstances which lead to the final catastrophic moment. This is the story of an accident that *didn't* happen because the circumstances weren't quite right—but with only minor changes to the script, the ending could have been tragically different.

"Descend and Maintain . . ."

The crew of a four-engine jet had completed a ten-hour mission and were preparing for a night recovery at their overseas station which was reporting IMC. The crew confirmed receiving the weather report and accepted Center's clearance to FL 060.

As the jet descended, it was handed off to a second controller for further clearance to 2,200 feet. The crew correctly read back this clearance, together with the local altimeter setting of 28.85. The controller gave vectors for a PAR approach, and once again the crew received and correctly acknowledged the 28.85 altimeter setting.

The first indication that something was amiss came when the aircraft was handed off to GCA. Noting the Mode C altitude readout of 1,200 feet, the GCA controller asked the pilot to confirm his altitude. "Level 2,200 feet." the pilot replied.

"Stop altitude squawk; altitude differs by

1,000 feet," replied the controller as his published directives required. No one questioned the assumption that a faulty transponder was responsible for the 1,000-foot discrepancy.

At eight miles on final, the aircraft was handed off to the final controller. Once again, the pilot was asked to confirm his altitude. Again he replied, "Level 2,200"—but this time he added, "on altimeter 29.89."

The controller immediately issued the correct altimeter setting of 28.85 and instructed the pilot to maintain his present altitude. The aircraft intercepted glide slope at an altitude of 1,200 feet at four and a half miles instead of at 2,200 feet at the normal eight mile point; the landing was uneventful.

Play It Again

No one suffered anything worse than embarrassment from this episode. But two minor changes in the scenario, neither of them improbable, could have resulted in a major accident: a change in wind direction to the opposite runway and a PAR outage.

Here's what might have happened with the scenario change.

Once again, the crew acknowledges the correct altimeter setting. With PAR out, the only approaches available are tacan and ASR; the crew elects the latter.

As the aircraft is being vectored for final approach, the controller again questions the altitude readout.

"Level 2,200 feet," the pilot confirms.

"Stop altitude squawk; altitude differs by 1,000 feet," instructs the controller. His directives require no more. The altitude readout vanishes from the scope.

Soon, the aircraft reaches the final approach fix. "Descend to your minimum descent altitude," the controller directs. (The MDA for this approach is 320 feet.)

"Departing two thousand two hundred," the pilot replies. In the cockpit all altimeters, set 1.04 inches above the correct setting, indicate more than 1,000 feet above the aircraft's actual altitude.

They continue, descending in the weather and darkness until impact with the ground.

Righting the Wrongs

The crew's role in both the real and imaginary episodes requires no further comment. But the Hazardous Air Traffic Report inspired by the close call pointed out a more subtle deficiency—one which would very probably have shared the responsibility for our fictional accident.

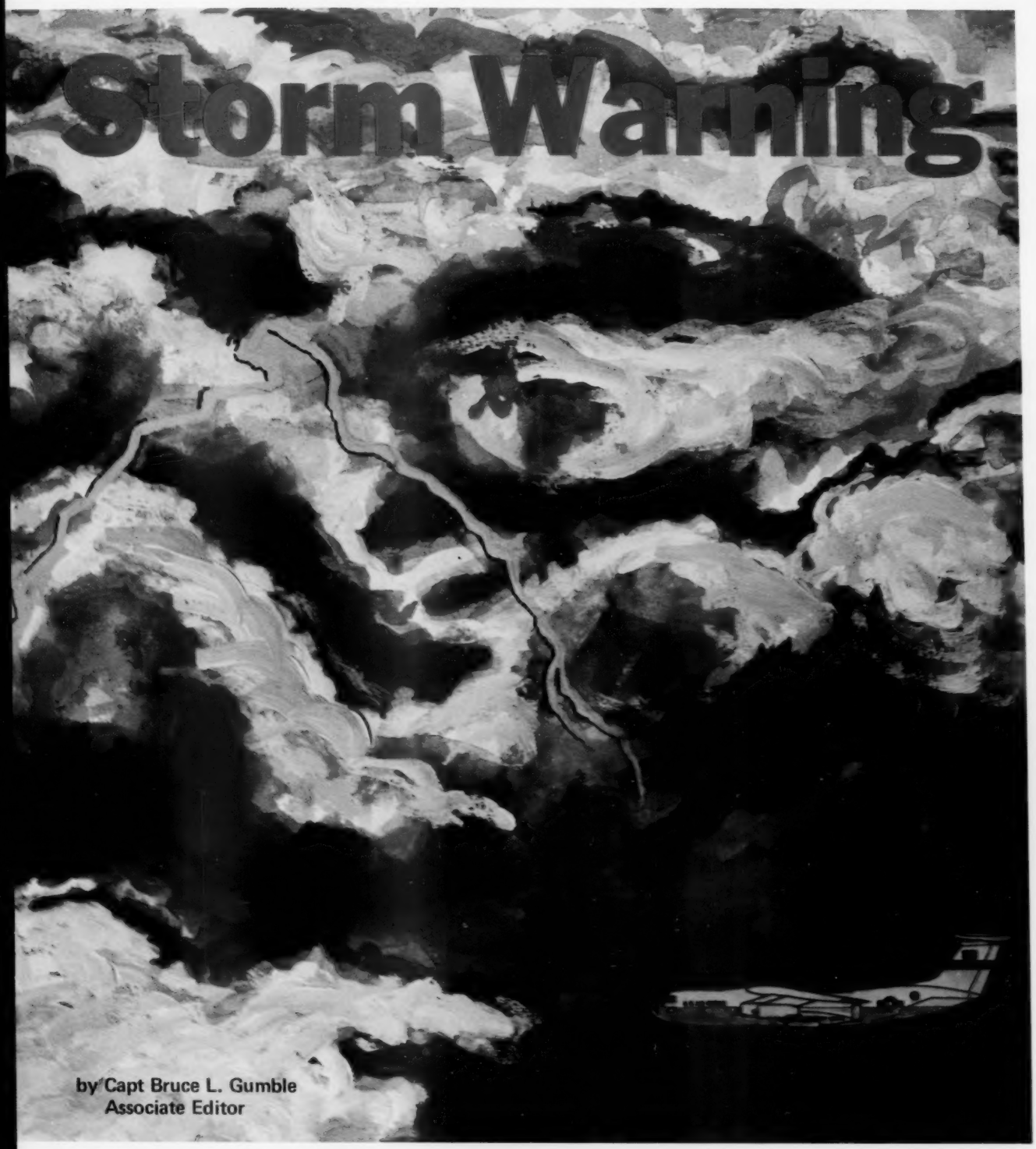
At the time of the incident, FAA directives required controllers to verify an aircraft's altitude when the transponder-encoded altitude readout differed by 300 feet or more from the assigned altitude. When the pilot confirmed he was flying at the assigned altitude, the controller would then advise the pilot to discontinue the altitude squawk. However, *there was no requirement for the controller to verify that the pilot was, in fact, using the correct altimeter setting.* The procedure, designed to guard against one type of human error (misunderstood or misread altitudes) failed to take the possibility of an incorrect altimeter setting into account.

Thanks to timely and proper use of the hazard reporting system, the altitude verification procedures were revised before they could contribute to the loss of an aircraft; aircrews will now have to confirm altimeter settings as well as altitudes. Even if the chance of this situation occurring again were a thousand to one, it would still be worthwhile to guard against it.

But the bottom line reads the same as it always has: No procedure can compensate for all human error, and no amount of ground-based backup systems can replace thoroughgoing professionalism in the cockpit.

Tracking a thunderstorm from birth to maturity might make you afraid of one. Let's hope so.

Storm Warning



by Capt Bruce L. Gumble
Associate Editor

A small updraft lifted a spiral of dust high into the heavy afternoon sky. As the updraft strengthened, it uplifted a hawk which had been seeking prey in the grass below. The hawk spiraled with the rising air for awhile, then banked away. Far above the circling hawk, a small cumulus cloud formed.

Fueled by the heat of the afternoon, the humid air rose quickly, its moisture adding to the now rapidly building cloud. Updrafts and downdrafts began to clash, creating waves of turbulence. More small clouds formed and merged with the first. Within the darkening mass, lightning flickered.

Miles away, a weather observer carefully noted the distinctive configuration of the cloud mass. Unable to hear the distant rumble of thunder, he reported his observation as a *cumulonimbus* (CB).

A second, closer observer, his view of the sky blocked by low clouds, listened carefully. His observation of the same phenomenon would bear its more frightening name: *Thunderstorm.*

•

The pilot of Conch 41 noticed the storm as he steadied his fighter onto its assigned heading and leveled at 8,000 feet.

"How's it look to you, 42?" he asked his wingman, now some three miles in trail and 2,000 feet higher.

"Don't think we're anywhere near the base, but we might clip the edge of it on this heading."

"Yeah, looks like it. I doubt if there's anything in it, though. Top can't be much above 20,000. Should miss the bad stuff at this altitude."

At their previous base hundreds of miles south, both pilots had seen and avoided many monstrous storms. And yet, neither seemed to realize that the smaller thunderstorms of northern latitudes can be just as violent as their gigantic relatives in the south.

. . . the phenomenon would bear its frightening name: Thunderstorm!

The fact that the worst turbulence is created during a storm's building stage did not seem relevant to their present situation, although both knew that it was unwise to attempt a penetration of any thunderstorm at any altitude. Somehow, this one didn't gain their respect as had the larger ones they had seen down south.

"Approach, Conch 41. We've got a buildup ahead; looks like we might skim the edge of it. How about 15 degrees right?"

"Sorry, 41, I've got opposite direction traffic. How about a left three-sixty?"

Lead glanced at his instrument panel. "Uh, don't think so. We're a little tight on fuel." He looked ahead at the storm and reluctantly made his decision.

The left horizontal stabilizer failed first, then the right wing.

"Guess we'll just keep on; doesn't look too bad, anyway. Let me know when we can turn."

"Roger, 41."

The updraft hit his aircraft just as it entered the storm. The pilot grunted as the G forces shoved him lower into the seat. Still, it wasn't too bad; he'd flown through thunderstorms before, and his airplane was built to take it. He eased forward on the stick, trying to maintain a level attitude, and saw that even at

zero G the aircraft was climbing at 6,000 feet per minute. He added a little more forward pressure and waited for the updraft to abate.

It did—suddenly and violently—and a 100-knot downdraft slammed the fighter toward the ground. The pilot's vision went red as negative G's tore at his body. The left horizontal stabilizer failed first, then the outboard section of the right wing. There was just time for a single desperate "Mayday" before the ejection seat blasted him clear of the tumbling aircraft and into the violence of the storm.

Conch 42 heard the call and guessed what had happened. As he anxiously circled near the edge of the storm, hoping for the sight of a parachute, he was too concerned to notice the near-freezing temperature of the outside air—well within the temperature range most conducive to lightning. He had no way of knowing that the mixture of vapor and air in his fuel tanks was also near 0°C, or that this mixture was most highly explosive at this temperature.

His eyes were blinking from the lightning as the exploding tank ripped the aircraft apart.

•

The storm gathered speed in its eastward movement and a student pilot watched it warily from the cockpit of his light plane. About ten miles away—time for maybe one or two more landings. He had no intention of being in the air when the storm arrived. He knew that even if the storm should miss the small airport, the clear space to the southwest could be a spawning ground for a tornado.

As he turned final for one last approach, the advancing wall of cloud approached him from behind. He did not see the line of dust spewing into the air as the storm rapidly neared the field.

The gust front struck the aircraft from the rear with a velocity almost equal to the aircraft's final approach speed.

The gust front struck the aircraft from the rear with a velocity almost equal to the trainer's final approach speed. Panicked by the stall warning and the quickly increasing sink rate, the student's first reaction was to pull back hard on the yoke.

The stall warning was still blaring as the tiny aircraft struck the trees short of the approach end of the runway.

•

Far above, in the smooth, sunlit air at FL 240, the crew of a military transport listened to the wail of the light aircraft's emergency locator transmitter. They reported the signal to Center and then turned their attention to the spreading top of the storm.

"What do you think, Jim—have we got enough clearance?" The copilot wasn't really anxious, simply curious.

"I'm pretty sure we do," the AC replied. "We ought to pass about ten miles east of it, according to the radar. Besides, I think we're a little above it. No problem."

They were ten miles east of the main storm body when hail began to hammer at the aircraft. Spewed from the seething top of the storm and carried eastward on the strong westerly wind, it ripped into the plane like shrapnel. A large chunk of the radome was swallowed by the number two engine. The engine disintegrated. Pressurized air swooshed out of the aircraft through a cabin window which had been shattered by flying compressor blades.

Minutes later, the aircraft was level at 10,000 feet. The emergency was under control. But for one passenger, an elderly man whose heart had been unable to stand the stress of the decompression, it didn't really matter.

•

As the crippled transport made its approach to a large civil airport, Transamerican Flight 43, in a holding pattern, waited for approach clearance. Finally, the military aircraft was safely on the runway, its emergency terminated.

"Transamerican 43, turn left, heading 220. You're cleared ILS approach runway 26 left; be advised we have rain showers moving across the approach end."

"Transam 43, roger," the first officer acknowledged.

"Could be a little shear on final," the captain remarked to his first officer. "Let's carry about 15 knots extra, just in case." He watched the radar, which showed a small echo moving southward toward the approach end of the runway.

The pilots saw rain ahead as they broke out of the clouds at 600 feet. It wasn't heavy, but the captain momentarily considered a missed approach. Then he remembered his limited fuel reserve and the extensive delay involved in sequencing for another approach. Glancing at his airspeed indicator and reassured by the 15-knot pad, he continued.

The headwind came first, ballooning the aircraft above glide path. The captain reduced power and lowered the nose, then turned his attention to the runway lights, dimly visible through the rain. Neither he nor the first officer could feel the headwind suddenly die and the aircraft—suddenly in a downdraft—sink at 1,500 feet per minute. Then, a strong tailwind. The airspeed dropped to 20 knots below approach speed; the first officer shouted a warning. The engines were firewalled, but the airliner slammed into the steel pillars of the approach lights.

•

The radio announcer's voice was somber as he told of the fiery crash at the city's major airport. Several miles east of the city, a man listened, his face grim. Then he walked to the front door, opened it, and shouted into the rising wind.

Trees bent in the wind, their leaves pale and strange in the eerie light.

Lightning forked down, followed almost immediately by a blasting concussion of thunder.

"Tommy! Get in here—now!" There was anger—and a note of fear—in the father's voice.

"Aww, Dad . . . " Reluctantly, the ten-year-old began walking toward the house, turning now and then for another look at the advancing storm. Lightning forked down, followed almost immediately by a blasting concussion of thunder.

Safe inside, the boy pressed his nose to the window. Trees bent in the wind, their leaves pale and strange in the eerie light. He shivered.

"Scared, son?" His father smiled.

"Oh, no, Dad, not a bit. Well, maybe just a little." He looked up at his father. "That's okay, isn't it, Dad? To be a little bit scared of thunderstorms, I mean?"

"Nothing wrong with it at all, Tommy . . . " He ruffled the boy's hair reassuringly.

Lightning struck again with a deafening bang; rain pelted against the windows.

" . . . nothing at all."

Accident Statistics

The Military Airlift Command major aircraft accident rate for 1976 was the lowest in the last four years. The rate of 0.8 per 100,000 flying hours represents the best of all flying commands.

Six major accidents during the command's 720,135 flying hours resulted in the continued downward trend since 1974. This compares with seven major accidents during 706,707 hours in 1975. The minor accident rate, however, was at a three-year high: 0.4 per 100,000 hours.

MAC-gained Air Reserve and Air National Guard crews (only Associate Reserve rates are included in MAC accident rates) recorded a dramatic, accident-free year in 1976. An outstanding show of professional airmanship.

Here's a look at MAC/USAF rates:

	1974	1975	1976
Major			
MAC	1.4	1.0	0.8
USAF	2.9	2.8	2.8
Minor			
MAC	0.2	0.0	0.4
USAF	0.9	0.7	0.7

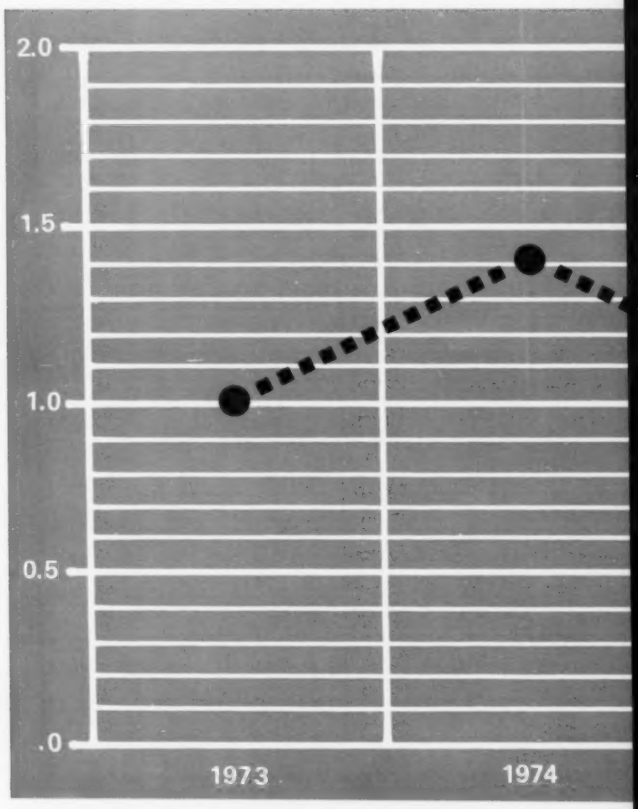
The following compares the 1976 major accident rate:

AAC	6.4	MAC	0.8	PACAF	6.8
ADC	4.1	SAC	1.0	USAFE	2.9
ATC	1.3	TAC	7.1	USAFR	2.3
ANG	3.3	AFSC	15.8		

MAC's 1976 Accidents

Major T-39. The aircraft, returning from an administrative airlift mission, landed on a wet runway. The Sabreliner hydroplaned on the wet surface and the right main tire was blown. The aircraft departed the runway approximately 750 feet from the end. The right wing and gear assembly were damaged. There were no injuries.

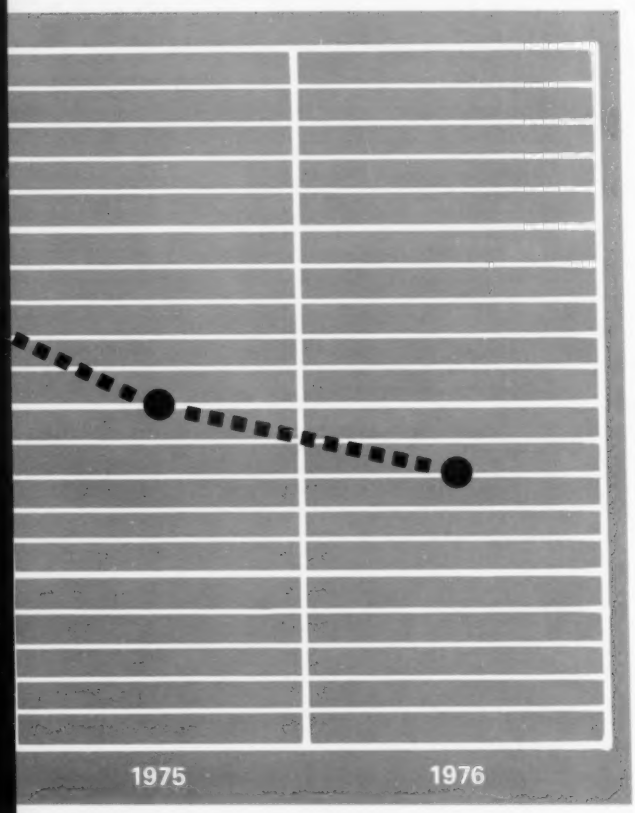
Major C-141. With gear indications of down and locked, the Starlifter landed with its nose gear in the retracted position. Failure of the nose gear to extend was attributed to a broken actuator fitting. The crew had no cockpit indications of an unsafe gear condition. Passengers and crew egressed without serious injury.



Major HH-3E. Shortly after takeoff, at an altitude of 300 feet, the helicopter lost power. The crew attempted an emergency landing three-quarters of a mile from the departure end of the home base runway. The landing was hard, causing the main rotor blades to sever the tail boom. All three main landing gear collapsed. Both pilots were injured. Investigators concluded that the fuel boost pumps had not been turned on before takeoff, causing the engines to flame out due to fuel starvation.

Major C-141. The pilot was attempting to proceed visually in an area of thunderstorms and heavy rain as he descended for an approach. The aircraft's radar had become inoperative shortly

for 1976



after taking off from its home base, but the mission was continued.

The aircraft apparently entered an area of extreme turbulence which caused a gust-induced overload of the right wing and subsequent failure. Witnesses reported seeing the aircraft on fire and falling to the ground in pieces. There were no survivors.

Major C-141. The pilot flew a normal GCA approach in VMC; light winds were forecast for landing. Witnesses said the touchdown appeared normal, but the aircraft lifted off the runway in an extremely nose high attitude and settled back to the runway. It burst into flames as the wingtip struck the ground. There were 23 fatalities and four survivors.

Major C-5. The aircraft was on a local training flight when the crew noted a bleed duct hot indication and number two engine overheat light came on. Shortly afterward the crew observed a fire warning. The aircraft made a full stop landing at home base. The fire was extinguished by the fire protection and aircraft rescue personnel. Cause of the fire was electrical arcing from a generator lead to a hydraulic pressure line. The arcing burned a hole in the hydraulic line, causing a high pressure, volatile leak. There was extensive damage to the pylon, wing leading edge and the front wing spar. The crew egressed without injury.

Minor C-141. During an FCF electrical check prior to taxi, the nose gear retracted as power was removed from the nose landing gear selector valve. Investigators found the manual retract button on the selector valve damaged. The valve was stuck in the retract position, causing the nose gear to retract when electrical power was removed.

Minor C-141. The aircraft entered a Dutch roll-type maneuver caused by spurious inputs to the yaw damper test circuitry; the pilot disconnected the autopilot and yaw damper; the aircraft rolled partially inverted and descended out of control for approximately 24,000 feet. With the aircraft under control at 17,000 feet, the pilot elected to make an emergency landing. There was extensive damage to the top side of the left and right wings and both petal doors. Two crewmembers were injured slightly.

Minor C-130E. During a practice assault landing on a dirt strip, the C-130's tailskid contacted the ground, causing damage to the tailskid and internal supporting structures. The crew noted several dust clouds as they approached the landing zone shortly after sundown. The pilot reported that the approach seemed normal until just prior to flare when the dust seemed to thicken. The aircraft touched down hard in a nose high attitude. Investigators determined that the aircraft lighting reflected from the blowing dust and obscured the pilot's touchdown point.

With the 1976 flying time up and the accident rate down, the safety picture seems to be improving; however, the facts reveal an increase in accidents caused by crew error. The key to sustaining the downward accident trend in 1977 is, as always, professionalism, good judgment, and cockpit discipline.

Even a good crewmember can have a bad day. Sometimes the results aren't too pretty.

Impatience, Temperament, and Flying the Line

An excellent navigator, very conscientious, and a credit to the Air Force. One of the most promising officers in the outfit. This young officer has a great career ahead of him."

Lou Jordan was all of these and more. But as a pleasant summer afternoon so often masks the flaw of a pending thunderstorm, Lou's sunny disposition hid his flaw.

Most of the time things went well for him, but like the little girl with the little curl, he was temperamental and impatient and, at times, downright horrid.

Often his baby daughter cried too much and too often; his car was undependable; his wife complained about the housing; and always, either the washing machine, dryer, or television was on the blink. He could be resentful and sullen, but once problems cleared up, Lou Jordan became his good ole self again.

Until the night when he was called for *that* unscheduled mission.

"You don't want breakfast at this time of night, Lou, do you, honey?" his wife begged off. Oh, what the hell, thought Lou. That's what snack bars are for.

Lou roused himself, stumbled into the bathroom and began the interminable morning ritual of shaving. But he was out of razor blades and cut himself while shaving with an

old, dull one, like on television.

Drowsiness didn't keep him from noticing that the washing machine had mutilated the shoulder insignia and name tag holder on his flying suit. Nobody's gonna know my name or command by looking at me today, he thought. Confidence falling, blood pressure rising. That was Lou.

The light in the garage burned out with a flash as he flicked the switch. His old car wouldn't start. While fumbling through his wife's purse for keys to the new car, he ran across their checkbook. What he saw in the balance column rendered the three blank checks in his wallet useless.

Lou cursed as he backed out of the garage into a fog so dense that it seemed to have steamed out of a giant teakettle. The going was slow, but he drove down the highway until he looked into the rearview mirror and saw a blurred red light and heard a siren. The patrolman wasn't friendly. He gave Lieutenant Jordan a lecture—and a citation—because one of the headlights on his brand new automobile was out. Was that the smell of whisky on his breath, the patrolman wanted to know. No, mouthwash. The patrolman left and Lou made his way the last few miles to the base.

The air policeman at the gate noticed the light out on Lou's car and stopped him. After a few minutes of discussion, the AP waved him on—but forgot to salute. The young navigator was growing extremely impatient.

The rest of the crew had already assembled by the time Lou walked into operations. The aircraft commander hated tardiness and let Lou know it in short order. Then, in rapid-fire order, the turmoil of Lou Jordan continued.

Before Lou had completed flight planning, the aircraft commander was ready to go to the weather briefing.

Lou's hack watch wasn't working properly.

The aircraft commander found a mistake on the flight plan and gleefully chewed out his navigator for it. While the rest of the crew went to breakfast, Lou remained behind, correcting the flight plan. After rushing to make up for the lost time, he finally joined the crew at the aircraft and discovered that the flight was being delayed because of a fuel leak, so back to the snack bar for breakfast. Lou's breakfast was lousy, and by the time he returned to the aircraft his crewmates were there ready to go. The delay had not been as long as anticipated.

They waited impatiently as Lou preflighted the navigational gear. His frustration multiplied when he discovered the radar set was operating only "marginally." The aircraft commander told Lou to make the decision whether or not to accept the radar or call for repairs.

We'll take it. We'll take it. Lou grew sullen and had difficulty understanding the clearance. Another argument with the aircraft commander.

As the jet climbed out, the radar quit. Lou couldn't get it back on the line and notified the aircraft commander who promptly raised hell about his decision to take it in the first place.

It was precisely at this point that Lou noticed the aircraft was flying nearly 1,000 feet lower than the assigned altitude and was five degrees off departure heading as it bore through the murky sky.

In that final microsecond, Lou shouted to no one in particular.

Lou called the aircraft commander over interphone. He was told curtly to standby one. So Lou waited and waited, growing more sullen by the minute. Finally—that does it. Let that smart SOB figure it out for himself then, he fumed. I'm fed up. What a screwed up day.

In the final microsecond before his day of frustration ended, Lou shouted to no one in particular. A giant, snow-covered ponderosa pine smashed through the distorted cockpit. Lou felt his seat tear loose as the aircraft disintegrated just below the mountaintop.

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Thanks to Grover "Ted" Tate, Jr., MAJ, USAF, (Retired), for the idea for this article.

Letters . . . To The Editor

Flying Circus

As one with a very vested interest, I appreciated the reference to "Mind Benders" in the introduction to "The Flying Circus." It's nice to be remembered. Keep up the good work and remember—somebody out there reads every word.

Ed Ross, Lt Col, USAF
Chief of Safety
443 MAW
Atus AFB, Oklahoma

***Indeed, reader Ross does have a vested interest. He is a former editor of THE MAC FLYER. Thank you, Ed.**

Mind Benders

As a former MAC aircraft commander, I have cherished my copy of the December 1971 THE MAC FLYER. In this issue there was a feature called "Mind Benders." It has brought reading pleasure to at least 100 people from my copy alone.

Have you ever done another such feature with different stories since December 1971? And if so, could I get a copy?

J.X. Loughran III
63 Longwood Dr
San Rafael, Calif.

***In December 1973 the last "Mind Benders" feature appeared; however, since receiving your letter the feature (which concerns weird happenings with aircraft and crews) has been retitled "The Flying Circus," and last appeared in the September 1976 issue.**

"Sub-Zero" Accident

I read with interest the article "Sub Zero" in the November issue of THE MAC FLYER. The article which caught my eye was the one about the transport which had an inop APU and no portable heaters were available.

I know how the crew and maintenance personnel must have felt, as I worked three and a half years on the flight line at McGuire AFB as crew chief on the C-141A. It states that the aircraft crashed due to problems in flight with added confusion to the crew from the intense cold they had experienced. I was wondering why this crew had not used the engine bleed air system to get the cockpit and themselves to a comfortable operating temperature rather than take off in a frozen state of mind and body. I know that in the C-141 this could have been done so I assume they could have done so in their aircraft also.

Robert E. Duff Jr
Ex-Sergeant, USAF
Blainsville, Pennsylvania

P.S. Keep up the good work on this very interesting magazine.

***You make an excellent point. The aircraft in the story was non-MAC, but its bleed air system is essentially the same as that on the C-141. It is not known whether the crew took advantage of engine bleed air heating—a rather high thrust setting is required for maximum effectiveness. Whether or not there was enough time for the crew to warm up probably will never be known. Thanks for your very appropriate comments.**

In Defense of Aero Clubs

Reading the "Sunday Afternoon Hero" in your October issue leads me to object very strongly to aero club management being referred to as "heartless ogres."

True, aero clubs do have more rules and regulations than ATC and IRS combined, but those rules were designed to protect their members. Pre-checkout requirements and checkout procedures are indeed very thorough, and compliance with them should have caused our Sunday afternoon hero to either stay on the ground or have known the symptoms of carburetor icing.

I sincerely hope that potential members of aero clubs have not been dissuaded from joining. The aero club I belong to has over 18,000 hours of accident-free flying since 1969. In all aero club accidents that I have personal knowledge of, a breach of rules and regulations was a contributing factor.

I realize, of course, that no foolproof system to prevent accidents has been devised, but some systems, such as aero clubs, strive to minimize their possibility.

Joseph W. Poole, MSgt
Wing Air Operations Superintendent
375 AAW
Scott AFB, Illinois

***Your points are well made.**

"Fire and Rain" Criticism

The members of this squadron who have read the December 1976 issue, including myself, are extremely distressed by the author's approach to the writing of the subject article. He implies a less than professional attitude on the part of the crew; he suggests a flagrant disregard for MAC and AF regulations, he mentions items which are completely irrelevant to the safety point he is attempting to make; lastly, he quotes parts of a seemingly clear regulation which offers guidance for flying in the vicinity of thunderstorms when, in fact, these paragraphs were clarified by a change two months after the accident.

We understand that this article is a fictionalized account . . . and I can understand why members of this squadron may be sensitive to an article covering this incident. However, it is generally felt that if the author took a more professional approach to this story, he could have made the desired points of safety in a much less disturbing manner.

Gabriel Sunshine, Lt Col, USAFR
Commander
702 MAS (Associate) (AFRES)
McGuire AFB, New Jersey

***The article you mention was published solely for safety education purposes. It is neither the magazine's responsibility nor intent to affix blame.**

The magazine's editors strive to prepare articles in a manner which will create awareness and prevent readers from repeating mistakes made by others. In factual articles, cause factors are taken directly from the incident or accident report itself. It is not unusual for a reader to perceive in an article an implication or intent that is not there. Apparently, this is true in your case.

The Master Manipulator leads his crew into simulated combat — and emerges a casualty.

Blinky, m'lad, this is your Low-Level Leader—Tactical Terror," C.R. cooed into the receiver. "Did I ever pull off the greatest deal! Pack your fun and play clothes—and hurry; tempus is fugiting."

"Just a second, Boss." Blinky rubbed his eyes and looked at his watch. 0730. It had to be important for the Omnipotent One to disturb his own beauty rest at this hour. "What's happening?"

"Wake up, my nodding navigator; this'll make your eyes water! I've got us all lined up to participate in the exercise that epitomizes expertise —LED FRAG! Naturally, they wanted only the best crew, and as your able aircrew commander, I felt it my duty to volunteer us."

"But, Boss, I just flew an AWADS last night and—"

"C'mon, Blinky, think of it. Goin' to war! Flying in the dirt! Jinking! Making those egocentric fighter jocks look like your mother-in-law," the Persuasive Pilot persisted. "And you know you'll be the hero—delivering your magnificent cargo to a starving CCT!"

"Right, Boss, but—"

"And every night when the war's over, we'll hit the Golden Nugget—the Strip. Maybe a little TDY to Paula's Pleasure Palace. I'm telling you, Blinky, it'll be five days of - - - "

"Okay, Boss," Blinky said reluctantly. "I'm packing."

•

" . . . and Major Terror will bring up the rear in Toulouse 59," concluded the briefer, looking at his watch. "Thirty minutes to stations. Any questions?"

C.R. leaned toward Sammy. "Only place to be, Faithful Follower. Hee! Hee! This way

we can keep an eye on them—but they can't see us."

•

"All right, men," the Wide-Waisted Warrior announced. "We're about to enter the combat zone, so don your ballistic helmets and flak vests. The Thuds have softened up any ground-based AAA and SAM's. The turkeys in the Fox Fours are overhead flying cap, but the toads in the Grey and White Trash Haulers have probably already been shot down and run the aggressors out of gas, so we should have an easy go of it. Hang on, 'cause we're headed for the dirt."

With that the Terrorific Tooler of Tactical Titans racked the Herk into an 80-degree bank and jerked the throttles back to flight idle. To an outside observer it must have looked as if the Brown and Green were attempting a strafing pass.

"Sir, you're NTS'ing three and four." Sergeant Torque pointed at the gauges. "How about some power?"

"Right on, Bubba," C.R. shouted gleefully and slammed the throttles full forward while executing a two and a half G pullout some 200 feet above the desert floor.

Blinky blinked in amazement at the radio altimeter. "Sir, we're supposed to be at 500 AGL!"

"Nonsense, m'lad," C.R. counseled. "I wouldn't want anyone to get hypoxic, heh, heh. Besides, we'd be sitting ducks for those Northrop MiG's at five hundred! Speaking of the enemy—Sergeant Downs, are you posted in the rear turret?"

"Yes, Sir," Ty responded. "Stationed in the left rear troop door, Major. I'll keep you advised of any approaching bandits."

In the right seat, Long Suffering Sam raised a finger and pointed in the direction of ten o'clock. "Sir, the rest of Toulouse flight is headed off that way. Shouldn't we follow them?"

"Sammy, look at 'em," said the Dynamic Driver disgustedly. "Lined up like so many ducklings—easy prey for the Mach two machos above." C.R.'s pudgy paw reached for the throttles and pressed hard, ensuring maximum output from the Allisons. "We'll head north for a while. There's a pass up here that I discovered during my dune-buggying days at Norton where we can slip through undetected. We'll catch the 'follow the leader' crowd at the IP."

Sammy shut his eyes as the Aerobatic Acronaut yanked the nose up and rolled the aircraft into a 40-degree bank and headed for the saddle in the ten o'clock position. "There it is, gang! Yippee!"

As they barely cleared the saddle, the Portly Pilot again punched the Herk's nose toward the ground.

"Sir," cautioned Sergeant Torque, "you better pull them back some—you've been running 977 TIT for quite a while."

"Just a second, Max," C.R. grinned slyly. "I think I got a bead on one of them Russki T-62 tanks. We'll come in low and fast, blow sand in his face with our prop blast, and be gone before he sees us."

The Hamilton Standards bit deeply into the dry desert air, propelling the Herk to slightly over 300 knots indicated. C.R. flashed a full 32-tooth grin as his craft cleared the parked vehicle by a mere 30 feet. Yelping with pleasure, he hauled the big bird into a tight chandelle.

"Ty! Did we kick sand in the big fella's eyes?!"

"Yessir, you created quite a duststorm," his loadmaster responded. "But I don't think it was a T-62, Major Terror. Matter of fact, it looked more like a W-23 to me."

"A W-23?" the Perplexed Pilot questioned.

"Yessir," Sergeant Downs continued, "a 23-foot Winnebago—with some stars painted on top."

The cockpit crew of Toulouse 59 all swallowed hard in unison.

"Heh, heh. Probably just some hunter or trapper," C.R. smiled weakly. "Uh, Sergeant Downs, er, you don't think he got our, uh, tail number, do you?"

"Oh, no, Sir, they couldn't have seen anything in that murk."

"Toulouse 59, Toulouse Lead," the UHF crackled.

"Ah, roger, Sir, five niner here," the Long Suffering One transmitted.

"Yeh, 59, we lost your SKE blip. Where are you?"

"I got it, Sammy," C.R. said on Hot Mic, then transmitted. "Yeah, Lead, I think we got a little SKE problem. We're right behind you," the Bold One hyperbolated.

"How come you didn't warn us about the aggressors? We really got hosed," It was the mission commander; C.R. recognized his voice.

"Ah, yes, Sir. Hmmmm. I think we had some radio problems, too—yeah, that's it, radio problems." C.R. nodded and winked at Sam and Max. "Blinky, give me a heading for the most direct route to the IP! Sammy, turn off the SKE equipment!"

"Turn left heading 225," Blinky announced. "I've got the IP set up in the ASN 24—it's 17 miles. Twenty minute warning."

"Major Terror!" Ty Downs shouted excitedly. "We've got a fighter rolling in on us from our seven o'clock!"

"Back to the war, men!" a jubilant C.R. said. "Let's hit the dirt!"

The crew of Toulouse 59 prepared themselves for a slow roll but, instead, the Pompous Pilot leveled the 130's wings and dove toward the descending plateau.

"Sir." It was C.R.'s favorite flight engineer; "we just *got* to pull the power back. It's been a long time running at—"

"Max! The enemy is after us! We've got to stay fast and low!"

"Sir! That hill!" Sammy shouted frantically.

A saucer-eyed C.R. noted the upcoming terrain and with a grunt, yanked back on the yoke.

Sccrruummpp!

"Loadmaster to pilot; what was that noise!?"

"Noise? Noise? What noise?" C.R. shrugged.

"Sir, we've got an overtemp on number four," Max announced.

"Ah, right, lemme pull it back to 932." C.R.'s fat fingers played with the throttles.

Whoop! Whoop! Whoop!

"Better shut it down, Sir," Max advised.

"Okay," the Delirious Driver said dejectedly. "Sam, tell Lead we're going back to Lost Wages."

"I can't raise them on UHF." Sam fiddled with the radios. "I'll try VHF."

"Okay, Sir," Sam finally said. "They've cleared us back to home base. We're supposed to attend the debriefing."

•

With number four prop at attention, the Master Manipulator executed a flawless approach and landing at Nailess AFB. There was a definite paucity of cockpit chatter during the last few minutes of flight and taxi-in.

With all engines shut down, Sergeant Ty Downs deplaned.

"Sir, I think I know why we lost that radio. We've got an antenna broken off the belly of the bird."

"Whaaa—" C.R. started.

"And there's some sagebrush hanging from one of the gear doors," Ty continued.

The Crafty Chrome-dome's crew was assembled near the right-hand gear pod when the blue station wagon pulled up.

"You're back early, Major," the colonel shouted. "Any problem?"

"Oh, uh, no, Sir!" C.R. saluted and signaled his men to form a semicircle concealing the hanging sagebrush. "Probably just a faulty fire indication."

"Get maintenance on it, Major." The colonel gave him the thumbs up. "I'm a bit pressed or I'd stay to help. An emergency SAR just came up. General Mack is stranded in the desert—something about an earthquake and a flash sandstorm that caused his vehicle to run off the road. Got to get moving."

•

" . . . so it appears that one of the big problems in exercises of this type," the briefer concluded, "is for crews to get caught up in the reality of the war game and take chances they shouldn't take. Remember, it *is* just a game."

The Bold One leaned toward his faithful followers, "You younger fellows should pay special attention. With your inexperience, it could be easy to get caught up in—"

The fearful foursome looked at each other and shrugged.

Quick Stoppers

Talk About Shear!

The DC-10 at O'Hare Airport was waiting for takeoff clearance when tower advised the crew to expect some severe wind shear at 500 feet on climbout. Here's the captain's account of what happened:

"At 300 feet I began to increase my airspeed to 180 knots, 40 knots above V2, expecting turbulence and wind shear. As we went through 500 feet on climb, our airspeed dropped instantly to 135 knots—a 45-knot decrease in heavy turbulence. The nose was lowered to level flight and it was quite some time before we gained V2, and even more time before we could climb.

"The point of this is that even though I was expecting a drop in airspeed I was shocked to see it drop so fast for so long. Had I been climbing at V2 plus ten knots in this condition, lowering the nose to level flight would not have been sufficient to keep from stalling, and there was not enough altitude to swap for airspeed. I have flown through wind shear many times but I have never seen so great a change over such a short vertical distance. I am sure glad that I was expecting it."

—The Grapevine

Binding Bundles

While on final approach of a PAR touch and go, the IP, flying from the right seat, noted flight control stiffness when making aileron inputs to the left. He decided to make a full stop.

After landing, the Sabreliner was inspected. Maintenance sleuths found the problem: a clamp in the copilot's yoke was loose, allowing the wire bundle to interfere with aileron inputs.

Hitting the Bottle

Damage from fire bottle.

As the C-130 taxied off into the night, the crew noticed a "slight bump" that sounded like a strut settling on the heavy Herk. Not so. Maintenance types found a crumped fire bottle near the tire tracks after the aircraft departed. The Hercules' home base was notified and the crew received instructions to divert there.

Upon arrival, the crew professed no knowledge of the fire bottle accident or damage to the aircraft. Apparently, in the darkness the loadmaster failed to see the bottle even though it was directly in front of the aircraft. And since the aircraft commander had not asked for Transient Alert . . .

Unnerving Swerve

No doubt the pilot was convinced that his Sabreliner had a mind of its own on takeoff. He had accelerated the wee one to about 60 knots and was ready to disengage the nose wheel steering when the aircraft made a hard right turn caused by a nosewheel steering input. The pilot elected to abort when, at about 75 feet right of centerline, the steering signal reversed to full left. With nose wheel steering disconnected, the Sabreliner headed for the left side of the runway. The pilot wrestled with controls and brakes and stayed on the runway.

Investigators found that the nose wheel steering command potentiometer had failed internally.

Screwy Huey

The Huey was maintaining 500 feet AGL when the crew heard a grinding sound coming from the engine compartment. The pilot wisely decided to make an immediate precautionary landing in a plowed field. No problem on the approach, but as the UH-IN neared the ground things began to happen. At about five feet, the pilot increased collective and lost tail rotor control. The aircraft continued to descend, turning about 180 degrees before touchdown. On touchdown, the pilot shut down the engines. Passengers and aircrew were uninjured.

Investigators found that the transmission output quill to the tail rotor had failed. Rapid reaction by the crew in opting for a precautionary landing probably prevented injury to its occupants.

Qs

Birds on Strike?

The C-5 was barely airborne when the instructor pilot in the right seat noticed a blur pass his side window. About that time, number three engine began to vibrate, and the pilot retarded the throttle; the vibration ceased. The troops shut the engine down and decided to call it a day.

Birds don't go on strike but "gull-ective" bargaining necessitated removing and replacing number three engine. The tab? $282,030.

Roman Roulette

No, it wasn't a spot on the windscreen—it was a commercial airliner bearing down on the Starlifter and crew. The pilots checked their altimeters: 31,000 feet. Just what the clearance said. But the 707 appeared to be at the same altitude. The Starlifter crew took evasive action and the two multiengine jets passed within 1,000 feet of each other. The crew felt that their evasive maneuver had prevented a collision.

Once clear of the airliner, the Air Force types called the European controller. He thought the C-141 was at FL 350!

Disappearing Airspeed

The C-141 was on what appeared to be a normal final approach until, at approximately 50 feet over the threshold, the airspeed suddenly decreased by 15 knots and the left wing dropped. Both pilots quickly made elevator and aileron corrections and power was added to stop the high sink rate. The Starlifter touched down firmly, but not hard.

There was no reason to suspect the aircraft had been damaged, but a postflight walkaround revealed damage to the wingtip and outboard aileron tip. The aileron had to be replaced.

What happened? Wind shear. Tower had not reported gusting winds, but the pilot had no doubt what had caused the sudden drop in airspeed. His quick reaction probably prevented a more serious incident.

after deadline . . .

A NEW MONTHLY FEATURE beginning in the May issue will present selected portions of MAC's Airport Qualification Program. The feature, entitled "Deja Vu," will highlight, with words and pictures, various airports that have been included in the program. Complete audiovisual presentations are available at Wing Learning Centers at MAC bases. Programs are presently available for the following airfields:

CONUS

Alameda NAS, CA
Beale AFB, CA
George AFB, CA
March AFB, CA
Mather AFB, CA
McClellan AFB, CA
Norton AFB, CA
Travis AFB, CA
Buckley ANGB, CO
Peterson Field, CO
Dover AFB, DE
Barbers Point NAS, HI
General Lyman, HI
Hickam AFB, HI
Kaneohe Bay, HI
Andrews AFB, MD
Kirtland AFB, NM
Altus AFB, OK
Charleston AFB, SC
Bergstrom AFB, TX
Dyess AFB, TX
Gray AAF, TX
Hill AFB, UT
Norfolk NAS, VA

FOREIGN

Amberly RAAFB, Australia
Richmond RAAFB, Australia
Andersen AFB, Guam
Christchurch AF, New Zealand
Pago Pago Intl, Samoa
Dakar/Yoff, Senegal
Jan Smuts AP, South Africa

A WHITE STRIPE ON KC-135's will aid MAC aerial refuelers. A new SAC reg calls for painting a white stripe over the row of rivets in front of the tanker's UHF antenna. The stripe will serve as a reference point during daylight refueling.

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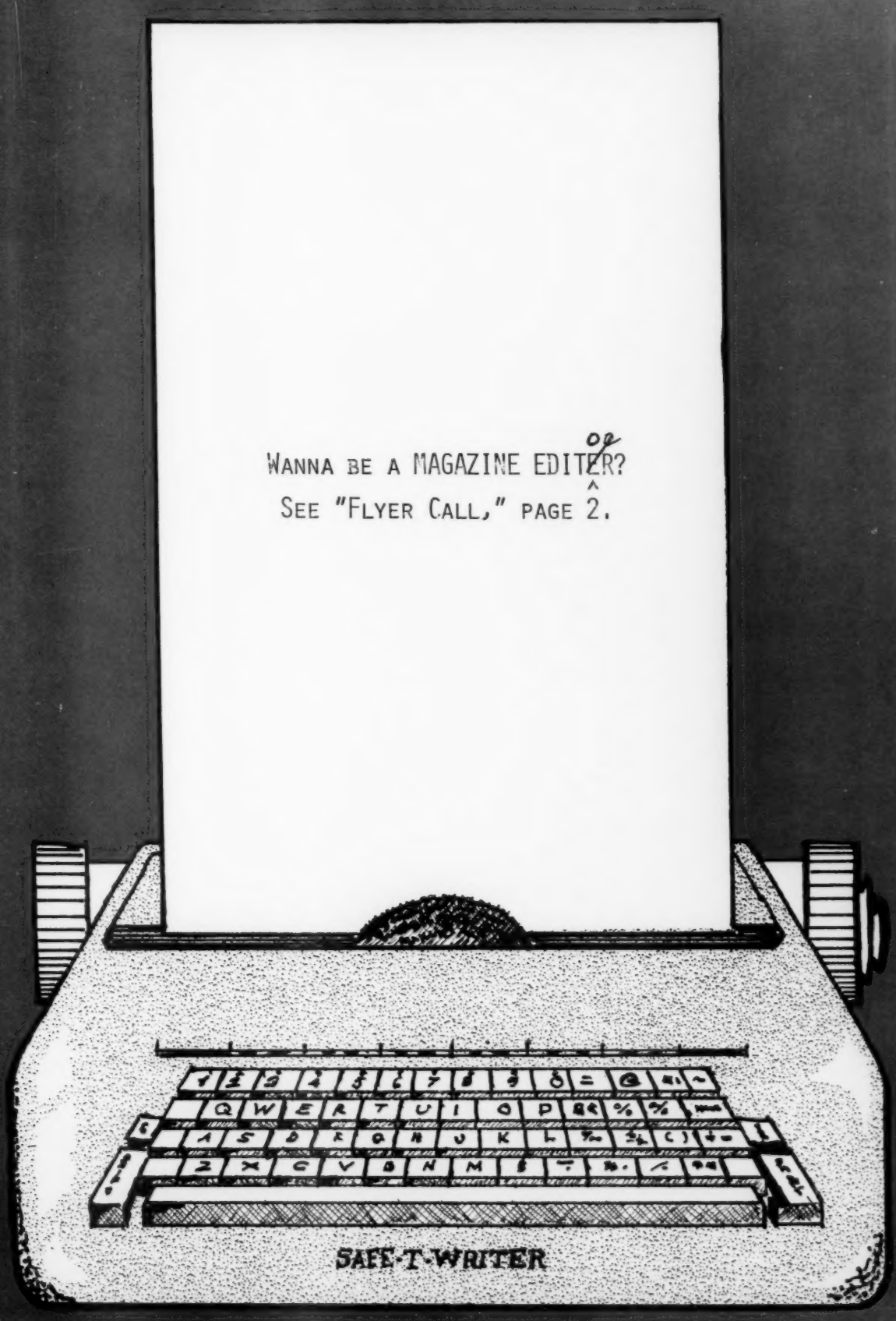
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SAFE-T-WRITER